

ENVIRONMENT ACT PROPOSAL

PROPOSAL NAME: Agassiz Irrigation Association - Irrigation
Dugouts Project

CLIENT FILE NO. 3636.00

PROPOSER: Agassiz Irrigation Association

DATE OF APPLICATION: July 13, 1993

TYPE OF DEVELOPMENT: Water Development

CLASS OF DEVELOPMENT: Two

LOCATION: R. M. of Stanley and R. M. of Rhineland

CONTACT PERSON: Bruce Webb

Advertisement

A Proposal has been filed by P. M. Associates Ltd. on behalf of the Agassiz Irrigation Association for the development of a regional irrigation system in the Carman / Morden / Winkler region of south central Manitoba. Phase I of the proposal includes the construction of three dugouts to be used to capture spring runoff from intermittent streams for irrigation use. The dugouts would be constructed in SE 13-2-5W (an 80 acre site storing up to 500 acre-feet of water) and N 11-1-4W (a 55 acre site storing 400 acre-feet of water) both in the R. M. of Stanley, and NE 1-1-3W (a 30 acre site storing up to 230 acre-feet of water) in the R. M. of Rhineland. Later phases of the project would construct nine additional dugouts on intermittent streams in the Region, and the associated water distribution network.

Comments and concerns were requested by September 20, 1993.

The proposal was advertised in the Morden/Winkler Pembina Times and the Altona Red River Valley Echo on Tuesday, August 17, 1993, and in the Carman Valley Leader on Wednesday, August 18, 1993. As a result of the public notice and the information circulation to TAC, several responses were received from government departments. There was no response from the public.

List of Comments

Man. Envir. (South-Central Region)

Mitigation measures described in the Dillon scoping study should be considered as licence requirements. Examples: engineered construction to reduce seepage, vegetation

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planting and water quality monitoring in the dugouts. Who will monitor irrigation practices and seepage and water quality? Have all potential impacts on downstream users been examined? Will existing impoundments be included in the overall proposal?

Man. Envir. (Water Qual. Mgmt.)

It is recommended that before apportioning water to the AIA, a detailed study be conducted regarding existing and future requirements for riparian flow. Future information should be able to cause both increased or decreased apportionment. It is recommended that if the 50% flow allocation is substantiated, that it be passed downstream in each year to meet downstream riparian needs. A detailed assessment of all factors identified in the M. M. Dillon scoping study is required. It is not certain how the efficacy of trees and shrubs for reducing evaporation could have been determined. The proponent should provide a clear statement of intent with respect to the type of storage planned, along with detailed engineering drawings of the impoundments. Monitoring programs should be developed for all items identified as requiring further study in the Dillon report. The monitoring programs should be developed now so that results can be known prior to the commencement of additional phases.

Man. Envir. (Terrestrial Qual. Mgmt.)

More detail is required on the proposed location of the dugouts before impacts on wildlife and vegetation can be assessed. Detailed maps of each site should show the exact location of the dugout and pipelines,

vegetation cover at the site and streambank, and terrain. The areas should be checked for the presence of rare or endangered plant species.

Man. Envir. (Land Use Approvals)

Air photos provided as supplementary material indicate that two of the three sites would be constructed over the stream channel, necessitating diversions of the streams around the dugouts. The proposal refers only to off channel storage. A discussion is needed as to why these dugouts have been sited as proposed and what impacts are anticipated from a diversion and

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channelization of the streams. The air photos also indicate that significant habitat could be affected in areas which are mostly cultivated. More detail should be provided on the locations of proposed monitoring programs and on the technical aspects of the water monitoring program. It is not discussed in the proposal whether the MCDC will contribute to the on-farm funding requirements in addition to the system funding requirements. There is insufficient discussion in the proposal concerning the relationship between the existing and proposed dugouts. There would appear to be little reason for the owners of the existing dugouts to add their dugouts to the AIA system. Detailed construction drawings should be provided for each site prior to licensing.

Historic Resources

No concerns.

Mines Branch

No concerns.

Highway Planning

No major concerns. At Site S12, permits are required from Highways and Transportation for access into the Neuhorst Access Road and for any structure within 38.1 m from the edge of the ROW. (Received October 27, 1993)

Rural Development

No land use concerns.

Manitoba Agriculture

Comments on wording and typographical errors in assessment report. (Received September 29, 1993)

Natural Resources

Further comments will be provided following a review of air photos. Has consideration be given to any heavy metals other than mercury? The potential for cadmium accumulations in the impoundments should be addressed. Due to the scale of Figure 1, it is not clear if the Wellington Wildlife Management Area in NE 29-3-6W falls within the study area. Red River tributaries are important fish spawning habitat for fish stocks in the Red River. The environmental impacts of the Phase I project and the cumulative impacts of succeeding diversions on the lower reaches of the streams must be fully addressed. This would include the development of mitigative measures. Natural Resources is willing to meet with the Proponent to discuss in more

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detail. An examination of the impact of reduced spring flows on the lower reaches of the streams in the short term and long term should be made. Tentative dates when the diversion would be completed and a clarification of "reasonable downstream riparian flow" would also be required. Who will monitor land and water supplies and how will the data be distributed? Timber cut or removed from Crown Land must be covered by a timber permit available from the Central Regional Office.

Fisheries and Oceans

DFO will not be an initiating department pursuant to the federal EARP with regards to this proposal. The report is lacking in sufficient detail to allow an assessment of potential impacts to fish and fish habitat. It is unclear whether the dugouts will be off-channel or instream. Is diversion into the

dugouts being considered or will they be filled strictly by pumping? There may be downstream impacts on fish spawning and nursery habitat - this has not been adequately discussed in the main report. What is the firm flow estimated for the affected streams and how does it compare with the volumes being proposed for storage? More information on actual flow in the streams would be helpful. Further justification should be provided to support the suggestion that 50% of the flow is "a reasonable riparian flow". What evidence is there that this is adequate to meet downstream needs? The proposed dugouts are significantly larger than the existing ones and estimates of current losses to seepage and evaporation are in the order of 25%. What measures are proposed to minimize this loss? It is difficult to assess the cumulative impacts of the various dugouts. Information should be provided on all twelve sites to make an assessment of the whole development. It is recommended that the development not be approved at this time due to the inadequacies of the information provided. Additional comments may be provided following a review of the Appendices.

Indian and Northern Affairs Canada

The Department does not have decision making authority with respect to the project,

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and has no comments as it appears First Nations will not be adversely affected.

Environment Canada

Environment Canada is not an initiating department pursuant to the EARP Guidelines. Parts of the water balance such as evaporation that contribute to losses should be outlined. Larger scale maps or sketches should show the relation of the proposed impoundments to the source streams. This would also be useful in determining wildlife impacts. The proposed positioning of intakes should also be shown.

All mitigation measures to prevent waterway and groundwater pollution by fuels and lubricants should be specified.
(Received November 9, 1993)

Preliminary Recommendation

There are no concerns over this proposal which would require a public hearing. However, there are a large number of TAC concerns which must be addressed before the assessment can be completed. A letter has been drafted to the Proponent requesting the required additional information.
(September 27, 1993)

Additional Information

An inspection of the three proposed sites was conducted on November 12, 1993. Agencies participating included Manitoba Environment, Manitoba Fisheries Branch, Fisheries and Oceans, PFRA and the Agassiz Irrigation Association. Following the inspection, additional information requirements were discussed. The AIA and PFRA agreed to discuss detailed information requirements with respect to flow impacts with provincial and federal fisheries representatives.

Additional information addressing the concerns identified during the preliminary review was received on February 8, 1994. The information was distributed to TAC members for review, with comments requested by February 25, 1994. This deadline was extended to March 4, 1994 for Manitoba Natural Resources and Fisheries and Oceans.

Comments on Additional Information

Man. Envir. (South-Central Region) No further concerns; previous comments and recommendations have been addressed.

Man. Envir. (Water Qual. Mgmt.) The matter of instream flows is still slightly unclear. Will the hydrographs following withdrawal be flat showing only minimum flows, or will they follow, to some extent, the natural hydrograph? How will the minimum flow requirement work in drought

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years - will the AIA capture as much as possible or will all flow be left to downstream riparian purposes?

Man. Envir. (Terrest. Qual. Mgmt.) It would have been preferable to carry out the wildlife and vegetation surveys between May and

August to observe species when they are most conspicuous. Wavy-leaved thistle was listed as present at site S7, and is a rare plant previously located only in the extreme southwest of Manitoba. Even the loss of the poor habitat present could affect wildlife. The mitigation and recommendations proposed in the wildlife and vegetation surveys should be followed.

Historic Resources

Although there are no archaeological resources on record for the sites, the areas should be examined. When weather conditions permit in the spring, one of the Branch's field archaeologists will look at the sites and the findings will be forwarded to Manitoba Environment.

Mines

No concerns.

Manitoba Agriculture

The project proposes to develop water on a rational basis within scientific limits. It encourages crop diversification and value added production. Concerns over soil suitability and reservoir safety and seepage appear to have been dealt with. The use of culverts in the design is appropriate, however, culverts can be easily obstructed.

Highways & Transportation

No transportational related concerns.

Natural Resources

DNR supports the maintenance of minimum instream flows to reduce impacts on fish movement, flow duration and spawning success. Construction should be scheduled to reduce impacts to fisheries and disturbed areas should be stabilized as soon as possible to reduce erosion. For the site in NE 1-1-3W, the outlet should be armoured or a drop structure should be installed to reduce flow velocities and erosion. Fish passage must be maintained in either case. Large trees should be salvaged for fuelwood and mitigation should be required for the loss of upland habitat. Western Regional staff should be contacted in this regard. Development should be prevented in the Wellington Wildlife Management Area. Authorization from Water Resources is required for works undertaken on Provincial Waterways. Water Resources and the AIA have recently agreed on a draft MOU relating to water allocation for the proposal.

Fisheries and Oceans

In general, the report addresses the deficiencies and concerns raised in the earlier review. The proposed duration and intensity of minimum instream flows (MIF) will help to protect downstream fish habitats, especially during the spring spawning and incubation period. Given that the MIFs are based on dry years, the system will be sensitive to inaccuracies if the calculated flows are inadequate to maintain downstream habitat conditions. In most years the irrigators' withdrawals will have little effect on the hydrographs. The proposed monitoring program should be required as a condition of a licence. DFO would appreciate being advised of any changes to the MIF or operating regime that may be proposed as a result of the hydrological monitoring.

Discussion and Recommendation

Clarification has been obtained on the remaining points of concern identified by Water Quality Management and Terrestrial Quality Management. With respect to the concerns of Water Quality Management, the Applicant is proposing to maintain minimum flows while diversions are occurring. For the 80% event (i.e. spring flows would be greater than this event in 80% of years) the hydrographs would be as shown in Figures 13 - 15. In drought years, the Applicant would attempt to capture as much water as possible within the following constraints:

- Senior water users must receive their allocations before the Applicant
- The pumping capacity of each diversion is limited
- Minimum instream flows must be maintained during the diversions
- Maximum diverted volumes at each site do not exceed the dugout capacities.

With respect to the concern over wavy-leaved thistle identified by Terrestrial Quality Management, the vegetation consultant was asked to clarify the identification of this species. It was determined that the original field notes had identified the species as another thistle species which is not rare. Therefore, no further action is needed to address this concern.

Natural Resources requested that development should be prevented in the Wellington Wildlife Management Area. The current proposal does not affect the Wellington Wildlife Management Area, so a licence term to address this concern is not required.

All other concerns can be addressed as licence conditions.

It is recommended that the Development be licensed under the Environment Act subject to the limits, terms and conditions as described on the attached Draft Environment Act Licence, and that enforcement of the Licence be assigned to the South-Central Region.

Prepared by:
Bruce Webb March 9, 1994

Draft Environment Act Licence

In accordance with the Manitoba Environment Act (C.C.S.M. c. E125) this Licence is issued to:

Agassiz Irrigation Association Incorporated: "the Licencee"

for the construction and operation of the Development being three water storage dugouts and related intake and outlet works for irrigation water supply in SE 13-2-5W and N 11-1-4W in the Rural Municipality of Stanley, and NE 1-1-3W in the Rural Municipality of Rhineland, subject to the following specifications, limits, terms and conditions:

Specifications, Limits, Terms and Conditions

1. The Licencee shall construct and operate the Development in accordance with the Environment Act Proposal dated July 5, 1993, PFRA drawings 117600, 117601A, 117602, 117603, 205300, 205301 and 205302, and the supplementary information contained in the February, 1994 report *Response to Manitoba Environment Request for Additional Information on the Agassiz Irrigation Association Project*.
2. The Licencee shall, prior to commencing construction at each site, submit to the Director, evidence that the potential for heritage resources at each site has been examined to the satisfaction of the Historic Resources Branch.
3. The Licencee shall obtain authorization from the Manitoba Water Resources Branch for works undertaken on Provincial Waterways.
4. The Licencee shall not undertake construction activities which result in siltation or sediment deposition on or immediately adjacent to waterways between April 1 and June 15 of any year.
5. The Licencee shall ensure that measures are taken during the construction of the Development to minimize the deposition of sediment in waterways.
6. The Licencee shall obtain all necessary permits from Manitoba Highways and Transportation for access and structures within 38.1 m of the right-of-way adjacent to the site in NE 1-1-3W.
7. The Licencee shall, prior to beginning construction activities at the site on N 11-1-4W, submit, for the approval of the Director, detailed plans equivalent to those submitted for the other two sites.

8. The Licencee shall ensure that natural or constructed channel areas which are exposed to high velocity water flows are protected with rip-rap or gradient control structures to limit erosion.
9. The Licencee shall replant dykes and other areas disturbed by the construction of the Development with varieties of native or domestic grass and forb mixes capable of providing wildlife cover. Species chosen shall be capable of rapid revegetation.
10. The Licencee shall replace trees and shrubs removed during the construction of the Development so that no long term net loss of wildlife habitat occurs. Cut trees useable for fuelwood shall be salvaged. Other trees and branches shall be stacked in small piles near the dugouts to provide temporary shelter for wildlife.
11. The Licencee shall ensure that the combined capacity of pumps used to divert water into the Development does not exceed $2.27 \text{ m}^3/\text{s}$ at each site.
12. The Licencee shall ensure that minimum instream flows are maintained in each waterway below its diversion point at all times while water is being diverted into the corresponding dugout. These minimum instream flows shall be $0.2 \text{ m}^3/\text{s}$ below the diversion points in SE 13-2-5W and N 11-1-4W, and $0.122 \text{ m}^3/\text{s}$ below the diversion point in NE 1-1-3W. Prior written approval from the Director shall be required to reduce these flows.
13. The Licencee shall ensure that buried pipelines which are installed on cultivated land or land in its natural state are installed in accordance with the methodology illustrated in the attached Figures 1 to 3.
14. The Licencee shall monitor instream flows, seepage from reservoirs, and land impacts as proposed. All data shall be forwarded to Manitoba Environment, Manitoba Natural Resources, and the Prairie Farm Rehabilitation Administration.
15. The Licencee shall on a daily basis monitor streamflows, diversion rates and pumping durations when dugout filling is occurring. Dugout water levels and pumping rates and durations shall be monitored when water is being used from the dugouts. An annual report on this operating data for each dugout shall be provided to Manitoba Environment, Manitoba Natural Resources and the Prairie Farm Rehabilitation Administration.
16. The Licencee shall ensure that all waste oil products generated by the machinery used in the construction and operation of the Development are collected and disposed of in accordance with applicable Manitoba Environment and legislative requirements.
17. The Licencee shall ensure that fuel storage areas established for the construction and operation of the Development shall comply with the requirements of

Manitoba Regulation 97/88R respecting Storage and Handling of Gasoline and Associated Products.

Revocation

If, in the opinion of the Director, the Licencee has exceeded or is exceeding the limits, or has not complied or is not complying with the specifications, terms or conditions set out herein, the Director may revoke this Licence either temporarily or permanently.

Larry Strachan, P. Eng.
Director,
Environment Act

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